**IT Applications Unit 3, AOS 2, Organisations and Data Management**

**Developing a RDMS, p 113-119**

**In creating the database the following is carried out:**

Creating the tables and relationships

Setting up the queries

Input forms

Creating macros

**Testing the solution, p 115**

1. **Why is testing carried out?**

To make sure that all the features and functions work correctly and the data is free from any errors.

1. **Distinguish between informal and formal testing.**

**Informal:**

Occurs during the development stage. Software developers are consistently making sure that the solution will function according to expectations.

**Formal:**

Formal testing occurs once the solution is completed and is used to test whether the solution solved the original problem.

* 1. **Bench Test**
     1. **What does a bench test entail?**

Forms part of the formal testing process. Sample data is used to determine how the solution behaves with a range of data. A bench test involves using calculations and the like on the sample data and observing how the erroneous data is handled by various validation techniques.

* 1. **Describe User acceptance testing.**

User acceptance testing is testing done to ensure that the solution meets the needs of the intended users. Instead of testing the functionality and formulas of the solution, user acceptance testing usually involves potential users to follow a series of steps to complete a task within the solution or to give feedback to the developers about the information described in the output.

**Testing procedure:**

1. State the formula or function that is to be tested.
2. State the test data.
3. State what the expected result is
4. State why this is the expected result
5. Record the actual result generated by the solution
6. Provide a concluding statement about how the formula or function works correctly.

**Testing validation**

1. **Testing should test the boundaries of the validation rule. What does this mean?**

This means that when testing the validation technique it is important to test data outside of the intended range to ensure that the validation method is working properly. If data outside of the range was not tested then there would be no way of knowing if the validation technique worked properly. For example, if the validation procedure was set to check for a value between and incl. 5 and 10 then it would be wise to test the numbers 4,5,6 and 9,10,11.

1. **Testing the query**

Follow a similar method to above. Make sure there are records that are returned by the query, some that are rejected by the first criterion even if they meet the second one and vice versa.

1. **Testing formulas**
2. **During which stage of the PSM does testing take place?**

Informal testing occurs during the development stage of the solution and formal testing occurs after the solution has been completed.

1. **Why is testing performed during this stage?**

Testing occurs during the development stage to consistently make sure that the solution is meeting the required expectations. Testing also occurs once the solution is completed with large amounts of documentation to ensure that the solution will work as intended.